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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,466	02/17/2004	Bo Su Chen	H0005002(1139.1154101)	1775
22913	7590	07/13/2005	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			LEPISTO, RYAN A	
			ART UNIT	PAPER NUMBER
			2883	
DATE MAILED: 07/13/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/781,466

Applicant(s)

CHEN, BO SU

Examiner

Ryan Lepisto

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 24-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 24-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 6-9, 12-15, 18, 21-22, 24-25 and 30-31** are rejected under 35

U.S.C. 102(e) as being anticipated by **Kathman et al (US 6,496,621 B1)** (Kathman).

Kathman teaches a light transmission system (Figs. 3-4) comprising a light source (not labeled) (can be a VCSEL, column 3 line 8 or a LED since the purpose of the invention is to avoid feedback from cheaper sources such as LEDs, column 1 lines 33-36), an optical element (32) having a first and second surface, an optical medium (30) having an end adjacent to the first side of and integral to (and therefore abutted to) the optical element (32) wherein both are made from an optical wafer (column 5 lines 54-64) and therefore have equal indices of refraction and wherein the embodiment of Fig. 4 has a negative axicon surface (discontinuous slope or groove) (column 6 lines 32-48), a detector (fiber, 14) spaced from the second surface of the optical element (32) wherein the optical element (32) produces a light pattern on the detector (14) that has reduced light intensity near the center of the light pattern (Fig. 2B) (column 6 lines 5-6) and that

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any light that is reflected by from the detector (14) is focused away from the source (column 6 lines 8-14) (no light back to the source is less than half).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 14 and 18-19** are rejected under 35 U.S.C. 102(b) as being anticipated by **Kingsley et al (US 5,773,817)** (Kingsley). Kingsley teaches an optical coupler (Fig. 5A) comprising an optical element (62) having a flat and a plano-convex side, a detector (switch or pulser 12) spaced from the convex side of the optical element (62) (lenses have focal points), a laser source (54) positioned on the flat side of the optical element (62) wherein the optical element (62) directs an annular ring of light to the detector (12) such that all the light (shown by arrows in Fig. 5A) do not couple back to the laser source (54).

3. **Claims 14, 16-17 and 26-27** are rejected under 35 U.S.C. 102(b) as being anticipated by **Hibino et al (US 5,598,394)** (Hibino). Hibino teaches a light transmission system (Fig. 1a) comprising a light source (11), a detector (12), an optical element (14) having a focal length of 3 mm (column 4 line 34) positioned between the source (11) and detector (12) with the detector being set to any where between 0.5 mm to 2.5 mm from the beam splitter (13) which would put the detector (12) with in front (1.5 + 0.5 +

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0.5 = 2.5 mm) or behind ( $1.5 + 0.5 + 2.5 = 4.5$  mm) the focal point of the optical element (14) wherein the optical element (14) directs all light transmitted to it to the detector (12) and that any light reflected by the detector would not go back to the source because the plane and position of the detector (12).

4. **Claims 1 and 5** are rejected under 35 U.S.C. 102(b) as being anticipated by **Kawasaki et al (US 4,021,099)** (Kawasaki). Kawasaki teaches an optical coupler (Fig. 6) comprising an optical element (60) with a flat and convex side, a detector spaced from the optical element (column 4 lines 21-24), an optical fiber (21a) that abuts the flat side of the optical element (60) that is perpendicular to the optical axis of the coupler wherein the coupler is adapted so that light from fiber (21a) is not coupled back to the fiber (21a) (column 4 lines 14-24).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 10-11 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kathman as applied to claims 6-9, 12-15, 18, 21-22, 24-25 and 30-31 above, and further in view of **Davinson (US 4,357,104)**.

Kathman teaches the optical system with the limitations described above used to reject claims 6-9, 12-15, 18, 21-22, 24-25 and 30-31 above.

Kathman does not teach expressly the light source including an optical fiber.

Davinson teaches an optical transmission system wherein an optical fiber (Fig. 1, 11) delivers an optical signal from a laser or LED source to a lens (17) (column 3 lines 64-67).

Kathman and Davinson are analogous art because they are from the same field of endeavor, optical systems comprising a source optically coupled to a lens that then optically couples to a detector.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a fiber with the laser or LED light source as taught by Davinson in the optical system and laser or LED source as taught by Kathman. Applicant has not disclosed that having the fiber abut the lens provides an advantage, is used for a particular purpose, or solves a stated problem and therefore is not critical. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the source and fiber as taught by Kathman in view of Davinson because the resulting light beam will have an annular distribution just as disclosed by applicant.

The motivation for doing so would have been to increase the number of applications the optical system can be employed in by allowing the source fiber to not only emit an optical signal, but also receive on if necessary (Davinson, column 3 lines 11-19).

6. **Claims 1-4 and 28-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingsley, and further in view of Davinson.

Kingsley teaches an optical coupler (Fig. 5A) comprising an optical element (62) having a flat and a convex side, a detector (switch or pulser 12) spaced from the convex side of the optical element (62) (lenses have focal points), a laser source (54) positioned on the flat side of the optical element (62) wherein the flat side of the optical element (62) is perpendicular to the optical axis of the coupler wherein the optical element (62) is torodial (column 6 lines 61-63 and therefore is shaped with a discontinuous slope with a grooved, negative axicon center) directs an annular ring of light to the detector (12) such that all the light (shown by arrows in Fig. 5A) do not couple back to the laser source (54) and as shown in the figure is not defocused on the detector (since light is need to activate the switch).

Kingsley does not teach expressly the light source including an optical fiber.

Davinson teaches an optical transmission system wherein an optical fiber (Fig. 1, 11) delivers an optical signal from a laser or LED source to a lens (17) (column 3 lines 64-67).

Kathman and Davinson are analogous art because they are from the same field of endeavor, optical systems comprising a source optically coupled to a lens that then optically couples to a detector.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a fiber with the laser source as taught by Davinson in the optical system and laser source as taught by Kingsley.

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The motivation for doing so would have been to increase the number of applications the optical system can be employed in by allowing the source fiber to not only emit an optical signal, but also receive on if necessary (Davinson, column 3 lines 11-19).

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

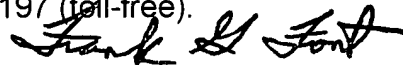
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ryan Lepisto

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Date: 6/28/05



Frank Font

Supervisory Patent Examiner

Technology Center 2800